1882MNRAS..43...62G

Postscript.

I may add that the comet (Comet *b*, 1882), two positions of which I forwarded to you by a previous mail, has since presented a magnificent spectacle in our morning sky. Between 9 and 10 o'clock on the morning of Sept. 17 I detected it without a telescope. It was then about four degrees west of the Sun and moving fast towards that luminary. The head and the tail for about a third of a degree were well seen. At $11^h\ 35^m$ A.M. on the following day I could again plainly distinguish it without optical aid simply by screening the eye from the Sun's direct rays. It was then less than a degree west of the Sun's western limb, and moving west, having obviously shortly before passed its perihelion. In a communication which appeared in the *Herald* of Sept. 19 I pointed out that if we assumed 6^h a.m. on the 18th as the time of perihelion passage of the great comets of 1843 and 1880, their apparent places from the 8th to the 18th would be nearly represented by those occupied by the visible comet. My conclusion was that the path of our present visitor was very similar to those described by the comets just referred to, and my suspicions have been confirmed by an approximate orbit completed at the Melbourne Observatory. Although the comet has been such a grand object in our morning sky for some time past, I have been unable till recently to find comparison stars in consequence of haze and bright twilight. As it possesses more than ordinary interest, I will endeavour to secure as many positions as possible.

Observatory, Windsor, N. S. Wales:
1882, *Oct.* 4.

Observation of the Transit of Venus, 1882, *Dec.* 6, *made at Glasgow Observatory.* By Professor R. Grant, M.A., F.R.S.

The ingress of *Venus* upon the Sun's disk on December 6 was well seen at the Glasgow Observatory. The sky during the early part of the day was somewhat overcast, but about one o'clock P.M. the day cleared up, and the Sun continued thereafter to shine with unclouded brilliancy until it descended beneath the horizon. My observation of the phenomenon was made with the large Equatorial of the Observatory, the object-glass of which, nine inches aperture, was reduced by a diaphragm to five and a half inches. The magnifying power used was 120. At $2^h\ 3^m\ 2^s$ Greenwich Mean Time a very slight indentation in the Sun's limb, indicative of the external contact of the planet with the Sun, was perceptible. The planet was now seen advancing

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gradually over the Sun's limb, and about 2^h 19^m I began to think that the internal contact would soon occur. In this respect, however, I was deceived, for at 2^h 19^m 55^s the dark ligament, respecting which I had read and heard so much, was now distinctly seen. As the planet proceeded in its course the ligament became more and more elongated, and also more attenuated towards the Sun's limb, until finally, at 2^h 22^m 32^s, the rupture of the ligament occurred, and the Sun's light immediately flowed round, leaving a sensible margin of light between the planet and the Sun's limb. I remarked that immediately previous to its disappearance, the dark ligament exhibited a rapid vibratory movement. This, however, lasted only two or three seconds. I am of opinion that the rupture of the ligament indicated the instant of the internal contact of the planet with the Sun.

During the observation I saw no trace of an atmosphere about the planet, and I similarly failed to discover any indication of the existence of a satellite revolving round it.

In consequence of the low altitude of the Sun, it presented a tremulous aspect at its limb during the time that the phenomenon was visible, and the same remark is applicable to the edge of the planet's disk. I am inclined to think, however, that the observation on the whole was made under favourable circumstances.

The external contact of the planet with the Sun undoubtedly occurred a few seconds earlier than the time above stated, but not, I think, earlier than between three and five seconds; and in this opinion I am supported by an experienced friend, Mr. Thomas Davison, who was with me during the observation.

Sir William Thomson having come to the Observatory for the purpose of seeing the planet on the Sun through the large telescope, a small Dollond of 3 inches aperture was placed at his disposal, and with this instrument, having a magnifying power of 60, he noted the internal contact to have occurred at 2^h 22^m 12^s. No trace of a dark ligament was perceived by him.

The Observatory, Glasgow:
1882, *Dec.* 7.

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